

IN THE CLAIMS

1. (Currently Amended) An isolated polynucleotide that encodes a polypeptide comprising a sequence of amino acid residues ~~that is at least 90% identical to an amino acid sequence~~ selected from the group consisting of:

(a) the amino acid sequence as shown in SEQ ID NO:2 from amino acid number 32 (His), to amino acid number 253 (Phe); and

(b) the amino acid sequence as shown in SEQ ID NO:2 from amino acid number 1 (Met), to amino acid number 253 (Phe); and

(c) a polynucleotide sequence complementary to (a) or (b).

2. (Currently Amended) An isolated polynucleotide comprising a ~~according to claim 1, wherein the~~ polynucleotide is selected from the group consisting of:

(a) a polynucleotide sequence as shown in SEQ ID NO:1 from nucleotide 298 to nucleotide 962;

(b) a polynucleotide sequence as shown in SEQ ID NO:1 from nucleotide 205 to nucleotide 962; and

(c) a polynucleotide sequence complementary to (a) or (b).

3. (Currently Amended) ~~An~~ The isolated polynucleotide sequence according to claim 1, wherein the polynucleotide comprises nucleotide 94 to nucleotide 759 of SEQ ID NO:5.

4. (Canceled)

5. (Original) An expression vector comprising the following operably linked elements:

a transcription promoter;

a DNA segment encoding a polypeptide as shown in SEQ ID NO:2 from amino acid number 32 (His), to amino acid number 253 (Phe); and

a transcription terminator,

wherein the promoter is operably linked to the DNA segment, and the DNA segment is operably linked to the transcription terminator.

6. (Original) An expression vector according to claim 5, further comprising a secretory signal sequence operably linked to the DNA segment.

7. (Original) A cultured cell comprising an expression vector according to claim 5, wherein the cell expresses a polypeptide encoded by the DNA segment.

8. (Currently Amended) A DNA construct encoding a fusion protein, the DNA construct comprising:

a first DNA segment encoding a polypeptide comprising an a sequence of amino acid residues selected from the group consisting of:

~~(a) the amino acid sequence as shown in SEQ ID NO:2 from amino acid number 1 (Met), to amino acid number 31 (Leu);-~~

~~(b) the amino acid sequence as shown in SEQ ID NO:4 from amino acid number 1 (Met), to amino acid number 27 (Arg);-~~

~~(c) the amino acid sequence as shown in SEQ ID NO:2 from amino acid number 42 (Leu), to amino acid number 56 (Ile);~~

~~(d) the amino acid sequence as shown in SEQ ID NO:2 from amino acid number 108 (Tyr), to amino acid number 122 (Thr);-~~

~~(e) the amino acid sequence as shown in SEQ ID NO:2 from amino acid number 151 (Ile), to amino acid number 165 (Gln);-~~

~~(f) the amino acid sequence as shown in SEQ ID NO:2 from amino acid number 213 (Ile), to amino acid number 227 (Ala);-~~

~~(g) the amino acid sequence as shown in SEQ ID NO:2 from amino acid number 42 (Ile), to amino acid number 227 (Ala);~~

~~(h)~~ the amino acid sequence as shown in SEQ ID NO:2 from amino acid number 32 (His), to amino acid number 253 (Phe); and

at least one other DNA segment encoding an additional polypeptide,
wherein the first and other DNA segments are connected in-frame; and
wherein the first and other DNA segments encode the fusion protein.

9. (Original) An expression vector comprising the following operably linked elements:

a transcription promoter;

a DNA construct encoding a fusion protein according to claim 8; and

a transcription terminator,

wherein the promoter is operably linked to the DNA construct, and the DNA construct is operably linked to the transcription terminator.

10. (Original) A cultured cell comprising an expression vector according to claim 9, wherein the cell expresses a polypeptide encoded by the DNA construct.

11. (Original) A method of producing a fusion protein comprising:

culturing a cell according to claim 10; and

isolating the polypeptide produced by the cell.

Claims 12-13. (Cancelled)

14. (Original) A method of producing a polypeptide comprising:

culturing a cell according to claim 7; and

isolating the polypeptide produced by the cell.

Claims 15-25. (Canceled)

26. (Newly Added) An isolated polynucleotide according to claim 1, wherein the polynucleotide encodes a polypeptide consisting of a sequence of amino acid residues selected from the group consisting of:

(a) the amino acid sequence as shown in SEQ ID NO:2 from amino acid number 32 (His), to amino acid number 253 (Phe); and

(b) the amino acid sequence as shown in SEQ ID NO:2 from amino acid number 1 (Met), to amino acid number 253 (Phe); and

(c) a polynucleotide sequence complementary to (a) or (b).

27. (Newly Added) An isolated polynucleotide according to claim 1, wherein the polynucleotide encodes a polypeptide consisting of the amino acid sequence as shown in SEQ ID NO:2 from amino acid number 32 (His), to amino acid number 253 (Phe) and a polynucleotide sequences complementary thereto.

28. (Newly Added) An isolated polynucleotide according to claim 2, wherein the polynucleotide consists of a polynucleotide selected from the group consisting of:

(a) a polynucleotide sequence as shown in SEQ ID NO:1 from nucleotide 298 to nucleotide 962;

(b) a polynucleotide sequence as shown in SEQ ID NO:1 from nucleotide 205 to nucleotide 962; and

(c) a polynucleotide sequence complementary to (a) or (b).

29. (Newly Added) The DNA construct encoding a fusion protein according to claim 8, wherein the DNA segment encoding an additional polypeptide comprises an affinity tag.

30. (Newly Added) An expression vector comprising the following operably linked elements:

a transcription promoter;

a DNA construct encoding a fusion protein according to claim 29; and

a transcription terminator,

wherein the promoter is operably linked to the DNA construct, and the DNA construct is operably linked to the transcription terminator.

31. (Newly Added) A cultured cell comprising an expression vector according to claim 30, wherein the cell expresses a polypeptide encoded by the DNA construct.

32. (Newly Added) A method of producing a fusion protein comprising:
culturing a cell according to claim 31; and
isolating the polypeptide produced by the cell.